



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,982	01/30/2002	Mark W. Simon	2523.2003-000	7820

21005 7590 03/17/2003

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT PAPER NUMBER

1755

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,982

Applicant(s)

SIMON, MARK W.

Examiner

Michael A Marcheschi

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/26/02 (pre-amendment).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1755

Claims 1-29 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3, 4, 6-10, 18, 20-23 and 25-29 are indefinite as to the phrase "phenol-based" because the examiner is unclear as to what this means, thus rendering the scope of the claims unclear. The phrase "phenol-based" has numerous interpretations (i.e. is it pure phenol, a material formed from reaction with phenol, etc.) In view of this, what does the term "based" encompass? This term should be canceled from the above phrase.

Claim 7 is indefinite because it does not properly define that the organosilicon component is a "further" component. This claim should be rewritten (i.e. **The method...wherein the method further comprises combining an organosilicon component with the abrasive grain and phenol components of step (a).).**

Claim 15 is indefinite because the examiner is unclear as to what "live steam" encompasses, thus rendering the scope of the claim unclear.

Claim 17 is indefinite as to the way it is drafted, thus rendering the scope of the claim unclear. Is this claim defining how long the atmosphere is in contact with the resin? The claim should be rewritten (i.e. **The method...wherein the atmosphere is in contact with the resin for a period of at least 5 hours.).**

Claim 21 is indefinite because it does not properly define that the organosilicon component is a "further" component. This claim should be rewritten (i.e. **The abrasive article...wherein the method further comprises combining an organosilicon component with the abrasive grain and phenol components of step (a).).**

Art Unit: 1755

Claim 23 is indefinite as to the phrase “abrasive articles” (line 8) because this is the plural form but line 1 of the claim only define the singular form (abrasive article), thus the phrase “abrasive articles” should be changed to “**abrasive article**”.

Claim 24 is indefinite because it does not set forth the phenol component. Since claim 23 defines that the phenol component is combined with the abrasive grain, this claim should also define this (i.e. **The abrasive article...wherein the method further comprises combining an organosilicon component with the abrasive grain and phenol components of step (a).).**

Claim 24 is also indefinite as to the phrase “further including the steps of” (i.e. implies plural steps) because this claim only defines **one** additional step.

Claim 28 is indefinite because it does not properly define that the organosilicon component is a “further” component. This claim should be rewritten (i.e. **The grinding wheel...wherein the method further comprises combining an organosilicon component with the abrasive grain and phenol components of step (a).).**

Claim 28 is also indefinite as to the phrase “The abrasive article of claim 27” because claim 27 is defined as a grinding wheel. This should be changed to “**The grinding wheel of claim 27**”.

Claim 29 is indefinite as to the phrase “The abrasive article of claim 28” because claim 27 is defined as a grinding wheel. This should be changed to “**The grinding wheel of claim 28**”.

The other claims are indefinite because they depend on indefinite claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1755

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims ~~1-3~~, ~~12~~, ~~17~~, ~~18~~ and ~~20~~ are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either (1) Rowse et al. (885) or (2) Australian patent 20356/67.

Rowse et al. teach in column 4, lines 7-10, column 5, lines 10-11 and the claims, a method of making a grinding wheel comprising mixing together an abrasive grain and a phenol based binder, shaping the mixture and thermally curing the mixture in an atmosphere that comprises humidity. The cure can be at temperatures higher than 100°C. The curing treatment is conducted in a container.

The Australian patent teaches on page 10, lines 11-18, page 12, line 30 and the claims, a method of making a grinding wheel comprising mixing together an abrasive grain and a phenol based binder, shaping the mixture and thermally curing the mixture in an atmosphere that comprises humidity. The cure can be at temperatures higher than 100°C. The curing treatment is conducted in a container.

The claims are anticipated by the references because the references teach methods of making an abrasive article which comprises all of the steps according to the above claims. With respect to claim 20 (article claim), assuming *arguendo* about the method, no distinction is seen to exist because applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though made by a different process. *In re Thorpe* 227 USPQ 964. In the alternative, no patentable distinction is seen to exist between the methods of the references and the claimed method in the absence of any evidence showing the contrary.

Claims ~~4-11~~, ~~14-16~~, and ~~21-29~~ are rejected under 35 U.S.C. 103(a) as obvious over either (1) Rowse et al. (885) or (2) Australian patent 20356/67 **both** in view of Colleselli.

Colleselli teaches in the abstract and column 1, lines 59-62, a grinding disk (wheel) that comprises an abrasive grain, a phenolic binder and an organosilicon material, wherein the organosilicon material coats the abrasive grain. **The organosilicon material improves the bonding between the abrasive grain and the bonding agent.**

The primary references use phenol formaldehyde resin, in general, and this broadly encompasses phenol formaldehyde resins having **any** phenol:formaldehyde ratio. In view of this, the broad interpretation of this resin encompasses and therefore makes obvious novolac and resole resin because "A generic disclosure renders a claimed species *prima facie* obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)". With respect to the use of an organosilicon component, it is the examiners

Art Unit: 1755

position that one skilled in the art would have found it obvious to add this component to the method of the primary references because the use of this component (as a coating on the abrasive, as defined, by the secondary reference) improves the adhesion (bond strength) between the abrasive and the bond (phenolic bond). In view of this, it is the examiners position that the strength retention of the bond is improved. Motivation for the use of this component in the fact that the secondary reference teaches that this component improves the bond between the abrasive and the bonding agent in bonded abrasives. With respect to the use of both powdered and liquid resins (claim 9), it is the examiners position that one skilled in the art would have found it obvious to use any form (powder or liquid) of the resin, as long as the final bonding agent is said resin. The mode of addition is considered to be an obvious variation of the references mode of addition in the absence of any evidence showing criticality. With respect to the use of steam, it is the examiners position that since the references use a humid atmosphere, the use of any type of humid atmosphere is well within the level of ordinary skill in the art. Since steam is a well known humid atmosphere, its use as the atmosphere according to the primary references is obvious and well within the level of ordinary skill in the art in the absence of any evidence showing criticality.

With respect to the product claims, assuming *arguendo* about the method of the primary references, no distinction is seen to exist because applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though made by a different process. *In re Thorpe* 227 USPQ 964. With respect to the ammonia content, it is the examiners position that during processing, the claimed ammonia content of the primary references grinding wheels will be within the claimed range in the absence of any evidence

Art Unit: 1755

showing the contrary. With respect to the strength retention, it is the examiners position that since the compositions are the same, (contains all of the claimed components), the strength retention will also be the same (within the claimed range) because the same article is expected to have the same properties in the absence of any evidence showing the contrary. With respect to the organosilicon component, this is obvious for the reasons defined above.

The examiner acknowledges applicants characterization of the Rowse et al. reference on pages 1-2 of the instant specification, but contrary to applicants position (reference defines wrapping in a film prior to cure), a container is used for the humid cure treatment instead of this wrapping.

Claims ~~20-22~~ are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kunz et al.

Kunz et al. teach in the entire document, a grinding wheel that comprises an abrasive grain, a phenolic binder and an organosilicon material, wherein the organosilicon material coats the abrasive grain.

The claimed invention is anticipated by the reference because the reference teaches a grinding wheel that comprises all of the claimed components and although the claimed process is not defined, applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though made by a different process. *In re Thorpe* 227 USPQ 964. In the alternative, no patentable distinction is seen to exist between the

Art Unit: 1755

reference grinding wheel and the claimed grinding wheel in the absence of any evidence showing the contrary.

Claims ~~20-22~~ are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Colleselli.

Colleselli teaches in the abstract and column 1, lines 59-62, a grinding disk (wheel) that comprises an abrasive grain, a phenolic binder and an organosilicon material, wherein the organosilicon material coats the abrasive grain. The organosilicon material improves the bonding between the abrasive grain and the bonding agent.

The claimed invention is anticipated by the reference because the reference teaches a grinding wheel that comprises all of the claimed components and although the claimed process is not defined, applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though made by a different process. *In re Thorpe* 227 USPQ 964. In the alternative, no patentable distinction is seen to exist between the reference grinding wheel and the claimed grinding wheel in the absence of any evidence showing the contrary.

Claims ~~23-29~~ are rejected under 35 U.S.C. 103(a) as obvious over either (1) Kunz et al. or (2) Colleselli.

The references teach grinding wheels that comprise all of the claimed components and although the claimed process is not defined, applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though

Art Unit: 1755

made by a different process. *In re Thorpe* 227 USPQ 964. With respect to the ammonia content, it is the examiners position that during processing, the claimed ammonia content of the reference grinding wheels will be within the claimed range in the absence of any evidence showing the contrary. With respect to the strength retention, it is the examiners position that since the composition is the same, (contains all of the claimed components), the strength retention will also be the same (within the claimed range) because the same article is expected to have the same properties in the absence of any evidence showing the contrary.

The examiner acknowledges the tables in the instant specification but these are insufficient to show patentability because all of the examples include an organosilicon material, which is not defined by the independent claims. These tables might show (examiner is not in total agreement) unexpected evidence for abrasives articles that contain an organosilicon component, but not the article claims that do not contain this component (independent article claims).

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A

Art Unit: 1755

reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The additional references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Marcheschi whose telephone number is (703) 308-3815. The examiner can be normally be reached on Monday through Thursday between the hours of 8:30-6:00 and every other Friday between the hours of 9:30-6:00.

Art Unit: 1755

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Mark L. Bell, can be reached at (703) 308-3823.

Amendments can also be sent by fax to the numbers set forth below:

For after final amendments, the fax number is (703) 872-9311;


For non-final amendments, the fax number is 703 872-9310.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Michael Marcheschi

Art unit 1755

3/03



**MICHAEL MARCHESCHI
PRIMARY EXAMINER**